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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Yoichi Nakanishi

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EXAMINER

TRAN, HOANG Q

ART UNIT

PAPER NUMBER

2874

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/523,084	Applicant(s) NAKANISHI ET AL.	
	Examiner Hoang Tran <i>HT</i>	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 9-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 9-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02/02/2005</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Objections

Claims 1 and 3 are objected to because of the following informalities: claimed limitation “at least one preliminary optical fiber function as one of the incident side optical fiber and the emitting side optical fiber” is misleading. Neither the Specification nor the Drawings shows the preliminary fiber (7a) as one of the incident side fibers. As a matter of fact, Fig. 6 shows the disjoint between the incident side optical fibers (4, 4a) and the emitting side optical fibers (7, 7a, 7b). Similarly, claim 3 recites “from the preliminary incident side optical fiber to one of the emitting side optical fibers” implies a portion of fiber, namely preliminary incident fiber, which connects between the incident side to the emitting side; none of the drawings show such embodiment. Appropriate correction is required.

For examination purposes, examiner shall consider the limitation of “the preliminary optical fiber” as being a receiving fiber of the plurality of emitting fibers.

Claims 9 and 15 are objected to because of the following informalities: the claimed limitation “wherein said driving means can escape the reflection means until a position for interrupting no optical path between the incident side optical fiber and emitting side optical fiber in moving the reflection means” is nonsensical since Fig. 2 shows the assembly of the driving means and the reflection means as an integral unit. Thus, the driving means *escapes* the reflection means is not clearly disclosed as to how the driving motor is detached (escape[d]) the reflection means (5). Similar recitation is

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found in the specification, thus examiner cannot determine the structure and function of the claimed limitation.

For examination purposes, the limitation will be considered as the driving means moves the reflection means from the optical path.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 9, 13, 15, 19, 21, and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Hill (US 6,542,656 B1).

In terms of claims 1-3 Hill discloses an optical switch comprising: an incident side light transmitting member constructed by plural incident side optical fibers (320, 340); an emitting side light transmitting member constructed by plural emitting side optical fibers respectively arranged so as to be opposed to the respective incident side optical fibers (330, 350); at least one preliminary optical fiber function as one of the incident side optical fiber and the emitting side optical fiber; reflection means moved so as to be positioned with respect to one of the optical fibers and able to transmit an optical signal between the preliminary optical fiber and the other optical fibers by reflecting the optical signal (360, 380, 370, 390); and driving means for moving the reflection means so as to

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be able to position the reflection means with respect to one of the optical fibers (col. 6, lines 35-47).

Regarding claims 9, 15, and 21, Fig. 4A demonstrates the functions of the reflective means are moved into a position wherein the optical path is not interrupted by the reflectors.

Regarding claims 13, 19, and 25 are not given patentable weight since the claimed limitation is in the product-by-process form. Since the prior art anticipates the reflection means having the function as claimed, the process of making the reflection means has no patentable weight in a product claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10, 11, 14, 16, 17, 20, 22, 23, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill in view of Kim et al. (US 2002/0196999 A1).

Hill disclosed the invention of claims 1-3, however, Hill does not explicitly disclose, the optical switch driving means is a stepping motor further comprising collimating lens wherein the optical switch is assembled in a single casing.

Kim discloses an optical switch having plurality of input fibers (24) and a plurality of output fibers (22) wherein the means for moving the movable reflective means is step motors (Para [0031]). Furthermore, Kim discloses collimating lens is provided to

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selectively focus the transmitting signal between the aligning fibers (Para [0024]) wherein the device is aligned in a casing (Fig. 4).

It would have been obvious to one having ordinary skill in the art to recognize the teaching of Kim can modify the optical switch of Hill since Kim and Hill are from the same field of endeavor. **The motivation** for the using a step motor to move the reflective means is for its compact size such the it can be fitted within a casing for the purpose of packaging the optical switch in a single device for ease of integration with other optical devices.

Claims 12, 18, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill in view of Chen et al. (US 6,647,173 B2)

Hill disclosed the invention of claims 1-3, however, Hill does not disclose the fibers and the reflective means are movable.

Chen disclosed that the moving of fibers and reflective means are movable in an optical switch having stringent tolerance requirement. It would have been obvious to one having ordinary skill in the art to recognize that placing the aligned fibers on the same movable substrate as the reflective means and moving the substrates allow the fibers and reflector to move by a single driving motor since Chen discloses the **motivation** is to reduce the stringent tolerance requirement when moving a fiber separately (col. 1, lines 5-65).

Conclusion


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoang Tran whose telephone number is 571-272-5049. The examiner can normally be reached on 9:00AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ht



SUNG PAK
PRIMARY EXAMINER

Hoang Tran
AU 2874
April 26, 2007